

Appln No. 10/028,745
Amdt date January 5, 2004
Reply to Office action of August 4, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 34 (Cancelled)

35. (Currently Amended) A method of thermally controlling ~~of~~ a WDM multiplexer module, the method comprising the steps of:

- maintaining a first stage controlled temperature environment inside the module, and
- maintaining a second stage controlled temperature environment in at least a portion of the inside of the module,
- locating at least one heat generating electrical component in the first stage controlled temperature environment,
- and
- locating at least one optical component in the second stage controlled temperature environment,

wherein temperature variations in the second stage controlled temperature environment are smaller than temperature variations ~~of~~ in the first stage controlled temperature environment.

36. (Currently Amended) A method as claimed in claim 35, wherein the ~~module~~ at least one optical component comprises at least one laser source, and the source temperature of the laser

Appln No. 10/028,745

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source is substantially governed by the second stage controlled temperature environment.

37. (Currently Amended) A method as claimed in claim 35 or 36, wherein ~~the module comprises a plurality of electrical components, and~~ the method further comprises, during start-up or re-start of the module, the step of sequentially switching on the electrical components based on operating temperature specifications and heat generating characteristics of the electrical components to facilitate creation of the first stage controlled temperature environment.

38. (Currently Amended) A method as claimed in claim 35 or 36, wherein the maintaining of the first and second stage controlled temperature environments comprises utilising at least one heat pipe in communication with a heat sink structure.

39. (Currently Amended) A method as claimed in claim 38, wherein the heat pipe has a working fluid characterised by a freezing temperature above -40°C , whereby a discontinuity in heat transfer to and from the heat sink structure is created for temperatures below the freezing temperature of the working fluid in the heat pipe for reducing heat loss from the inside of the ~~housing~~ module.

Appln No. 10/028,745

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40. (Original) A method as claimed in claim 39, wherein the freezing temperature is about zero °C.

Claims 41 - 46 (Cancelled)

47. (New) A method of thermally controlling a WDM multiplexer module, the method comprising the steps of:

- maintaining a first stage controlled temperature environment inside the module, and

- maintaining a second stage controlled temperature environment in at least a portion of the inside of the module,

wherein temperature variations in the second stage controlled temperature environment are smaller than temperature variations in the first stage controlled temperature environment,

and, during start-up or re-start of the module, sequentially switching on electrical components of the module based on operating temperature specifications and heat generating characteristics of the electrical components to facilitate creation of the first stage controlled temperature environment.

48. (New) A method of thermally controlling a WDM multiplexer module, the method comprising the steps of:

- maintaining a first stage controlled temperature environment inside the module, and

- maintaining a second stage controlled temperature environment in at least a portion of the inside of the module,

Appln No. 10/028,745

Amdt date January 5, 2004

Reply to Office action of August 4, 2003

wherein temperature variations in the second stage controlled temperature environment are smaller than temperature variations in the first stage controlled temperature environment,

wherein the maintaining of the first and second stage controlled temperature environments comprises utilizing at least one heat pipe having a working fluid characterized by a freezing temperature above -40°C , whereby a discontinuity in heat transfer to and from a heat sink structure of the module is created for temperatures below the freezing temperature of the working fluid in the heat pipe for reducing heat loss from the inside of the module.